REMARKS

With entry of the foregoing amendment, Claims 1-19 are pending in the application.

Claims 1 and 5-7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. (U.S. Patent 6,065,016) in view of Mills (U.S. Patent 6,466,940). Claims 2 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. in view of Mills and Robertson (U.S. Patent 6,269,369). Claims 3, 4, 9, 12, and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. in view of Mills and Polnerow et al. (U.S. Patent 5,813,006). Claims 10 and 13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. in view of Mills, Polnerow et al., and Robertson. Claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. in view of Mills, Polnerow, Robertson, and Celik (U.S. Patent 6,654,768). Claims 15, 16, and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. in view of Robertson. Claims 17 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. in view of Robertson and Polnerow et al.

The present invention relates to an automated means for continuously extracting unstructured data from a global communications network, e.g., the "Web", and storing such data in a database that can subsequently be accessed and searched in a more precise manner which cannot be achieved by general Internet search engines. Preferably, the invention collects people information such as names, titles, and employers. Because "the world's largest information repository, the Web, contains mostly unstructured information, in the form of Web pages, text documents, or multimedia files" (See Application Specification page 4, lines 20-22), the present invention advantageously collects such unstructured information and stores it within a structured database to effectively leverage the power of database searching upon data residing within the Web. The automated means for extracting the unstructured data may include: 1) a Web crawler that collects the data from Web pages, 2) an Extractor that extracts relevant people and organization data into working database records, and 3) a Loader that detects and deletes duplicate records.

In one embodiment of the present invention, database users may contact each other using electronic mail (E-mail), even without knowing the intended recipient's e-mail address. In

another embodiment, changes to the database are monitored and users, whose information is modified, are notified of such changes.

The Stuntebeck et al. patent describes a system in which a Universal Directory Service (UDS) "provides communication addresses of individuals associated with numerous different institutions" (col. 1, lines 6-7). The UDS can be accessed via numerous different communications channels such as the Internet, dial-up access, dedicated access, wireless access, voice access, and commercial on-lines services (See Fig. 1). When extracting people information, the UDS communicates with databases and directory services such as 1) local directory, 2) on-line directory, 3) local database, and 4) white pages directory to provide contact information to users (col. 2, lines 14-23). These databases and directories contain structured information as opposed to the unstructured information described in the present invention.

The Mills patent describes a computer-implemented method of building a searchable database of Classification, Contact, or Geographical data (CCG-data) using a Web crawler that interrogates Web pages for CCG information. In contrast to the present invention, HyperText Markup Language (HTML), Extensible Markup Language (XML) or Standard Generalised Markup Language (SGML) encoded CCG phrases, i.e., CCG-data, must be pre-embedded in a Web page to allow the crawler to collect information from that Web page (col. 7, lines 1-54). Thus, the Mills patent requires the addition of non-standard structured information, in the form of HTML CCG-data classified by CCG-data attributes, to every Web page to allow the computer searchable method to automatically build a searchable database. The Mills Web crawler cannot automatically search Web pages without the structured CCG-data.

The Polnerow et al. patent describes a system in which database users are authenticated prior to being allowed access to a contact information database. The system also provides a user with the e-mail address of a recipient if the user is authorized by the recipient. If not authorized, the sender can send e-mail to a recipient using a knock-knock link that doesn't reveal the recipient's e-mail address.

The Robertson patent describes a Personal Contact Manager system that issues notifications to a user's contacts when the user changes his information within the database or when an event occurs such as the user's birthday. The system may use e-mail to provide the notification.

The Celik patent describes a system in which a Synchronizer application interfaces with a personal information manager (PIM), such as Microsoft Outlook, to provide the synchronization of contact information in the PIM with a remote database. The synchronizer may be configured to automatically contact the remote database to update contact information in the PIM.

According to the Examiner, Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stuntebeck et al. in view of Mills, in part, because Stuntebeck et al. "discloses extracting from a global computer network information about individual people" (See Office Action section 3, second paragraph). Stuntebeck et al., however, only discloses that the UDS "communicates with one or more database servers containing directory information relating to individuals from various different companies" (col. 2, lines 12-14). The on-line corporate directory server 32 of Fig. 1, which contains structured information about people, "can be accessed via the internet" (col. 3, lines 21-22). However, there is no suggestion in Stuntebeck et al. of extracting unstructured information from a global computer network.

Thus, now amended base Claims 1, 9 and 15 of the present invention include the term "unstructured" to distinguish the structured information within the databases that are accessed in Stuntebeck et al. from the unstructured information extracted from a global communications network by the present invention. Support for these claim amendments is found at least on page 4, lines 20-22 and page 5, lines 14-16 of the Specification as originally filed. No new matter is introduced by these amendments.

Furthermore, the Examiner rejected Claims 1 and 5-7, in part, because Mills "discloses extracting information about individual people by using automated means, such as web crawlers and updating a database" (Office Action, bottom of page 2 to top of page 3). Mills, however, requires the addition of non-standard structured information, in the form of HTML CCG-data classified by CCG-data attributes, to every Web page to allow the Mills computer searchable method to automatically build a searchable database. In other words, Mills is effectively incorporating database attributes, i.e., structured information, into every Web page in the global computer network to enable a subsequent automated search of the distributed structured information. In contrast, the present invention searches for and extracts unstructured information from the global computer network without requiring the addition of non-standard structured information to every Web page in the network. Thus, while Mills discloses an automated means

of extracting structured information from Web pages containing non-standard structured information, amended base Claim 1 of the present invention recites the extraction of unstructured information from a global computer network.

Because neither Stuntebeck et al. nor Mills disclose or suggest the extraction of unstructured information from a global computer network as recited in amended base Claim 1, the Office Action fails to make obvious the present invention as claimed in amended base Claim 1 and dependent Claims 5-7. Thus, the Applicant respectfully requests that the §103 rejection of Claims 1 and 5-7 be withdrawn.

For the same reasons as stated above, the Office Action fails to make a case of prima facie obviousness regarding now amended base Claims 9 and 15. Thus, the Applicant respectfully requests that the rejection of Claims 9 and 15 be withdrawn.

In particular, with regard to the § 103 rejection of base Claim 9 (i.e., Claims 3, 4, 9, 12 and 14) in view of Stuntebeck et al., Mills, and Polnerow et al., Polnerow et al. does not add the extraction of unstructured information which is lacking from the other cited art discussed above. Thus, no combination of the cited references makes obvious the invention as now claimed in base Claim 9. Dependent Claims 3 and 4 follow base Claim 1 as argued above. Also, dependent Claims 12 and 14 follow base Claim 9 as argued above.

Similarly, base Claim 15 (i.e., Claims 15, 16 and 19) have been rejected under § 103 in view of Stuntebeck et al. and Robertson. Robertson does not add the now claimed extraction of unstructured information from a global computer network (e.g., the Web). Thus, no combination of Stuntebeck et al. and Robertson makes obvious the invention as now claimed in base Claim 15. Dependent Claims 16 and 19 follow as argued above.

With regard to the § 103 rejection of Claims 10 and 13 in view of Stuntebeck et al., Mills, Polnerow et al, and Robertson, no combination of the cited references makes obvious the invention as now claimed for the reasons stated above.

With regard to the § 103 rejection of Claim 11 in view of Stuntebeck et al., Mills, Polnerow et al, Robertson, and Celik, Celik does not add the extraction of unstructured information which is lacking from the other cited art. Thus, no combination of the cited references, including Celik, makes obvious the invention as now claimed.

Thus, Claims 2-8, 10-14, and 16-19 depend from and are limited by base Claims 1, 9, and 15 respectively and the foregoing arguments against obviousness apply. Accordingly, the Applicant respectfully requests that the various § 103 rejections of Claims 2-8, 10-14, and 16-19 be withdrawn.

The Applicant has also amended the specification to include the U.S. Patent Application No. 09/910,169 for the application entitled Computer Method and Apparatus for Extracting Data from Web Pages, filed July 20, 2001.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims (Claims 1-19) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By _____
Mary Lou Wakimura
Registration No. 31,804
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Concord, MA 01742-9133
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